

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 543 AND SOUTHBOUND I-95 OFF-RAMP IN HARFORD COUNTY, MD 543 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 543 APPROACHES OPERATING CONCURRENTLY AND THE I-95 SOUTHBOUND OFF-RAMP OPERATING ALONE.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR THE MD 543 NORTHBOUND APPROACH.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

SPECIAL NOTE

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER WITH THE NEAREST STREET ADDRESS, ZIP CODE AND PHONE NUMBER. THE CONTRACTOR SHALL CONTACT EITHER MR. DAVID WILDROUDT AT (410) 575-6518, MR. EJ HORNICK AT (410) 879-5552 OR MS. ROXANNE MUKAI AT (410) 288-8484 AT LEAST TWO WEEKS PRIOR TO BEGINNING WORK.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-30

STANDARD NO. MD-104.44-01 (LEFT LANE CLOSURE)

STANDARD NO. MD-104.45-01 (RIGHT LANE CLOSURE)

STANDARD NO. MD-104.49-01 (SHOULDER WORK)

STANDARD NO. MD-104.60 (MOBILE OPERATION)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. DAVE MALKOWSKI
DISTRICT ENGINEER
PHONE: (410) 321-3461

MR. JOE McMAHON
DISTRICT UTILITIES ENGINEER
PHONE: (410) 321-3456

MR. RANDALL SCOTT
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 321-3514

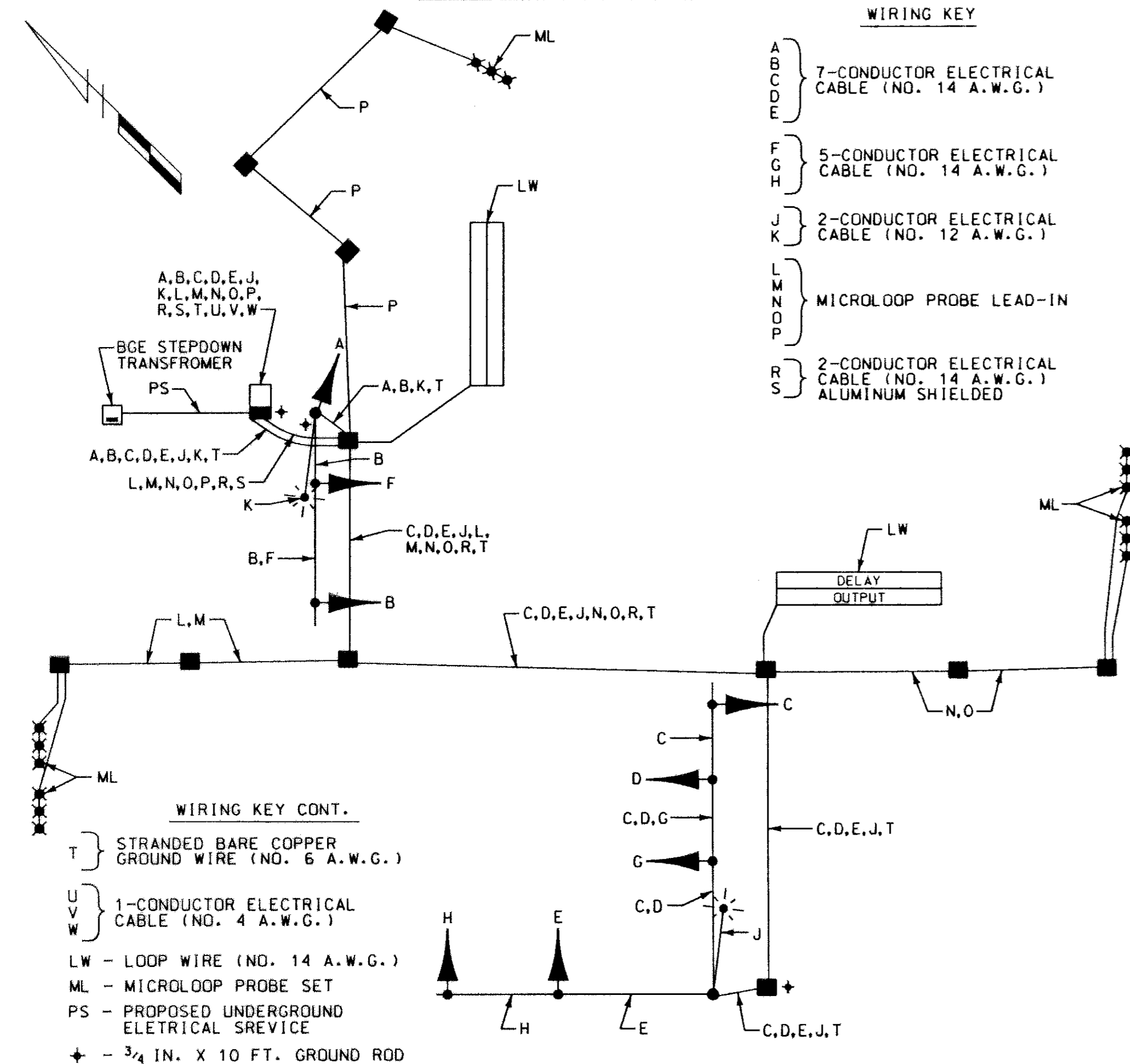
MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. DAVE RAMSEY
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 321-3468

WIRING DIAGRAM

WIRING KEY

- A, B, C, D, E, J, K, L, M, N, O, P, R, S, T, U, V, W
- 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- F, G, H
- 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- J, K
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- L, M, N, O, P
- MICROLOOP PROBE LEAD-IN
- R, S
- 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED



EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

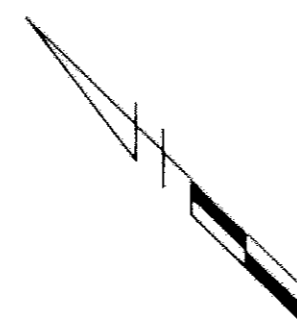
ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	27 FT. MAST ARM POLE AND 50 FT. MAST ARM
9000	1 EACH	23 FT. MAST ARM POLE AND TWIN 50 FT./70 FT. MAST ARM
9002	2 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9087	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9089	93 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : <ul style="list-style-type: none">- 2 EACH W3-3 SIGN (36 IN. x 36 IN.) WITH "NEW" PANEL (30 IN. x 30 IN.) AND FLAG - GROUND MOUNT- 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT- 1 EACH R3-1 SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT- 1 EACH R3-2 SIGN (30 IN. x 30 IN.) - MAST ARM MOUNT- 1 EACH ASSOCIATED SHIELD ASSEMBLY ("NORTH MD 543, RIGHT ARROW") SIGN (30 IN. x 51 IN.) - POLE MOUNT- 1 EACH ASSOCIATED SHIELD ASSEMBLY ("SOUTH MD 543, LEFT ARROW") SIGN (48 IN. x 75 IN.) - POLE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

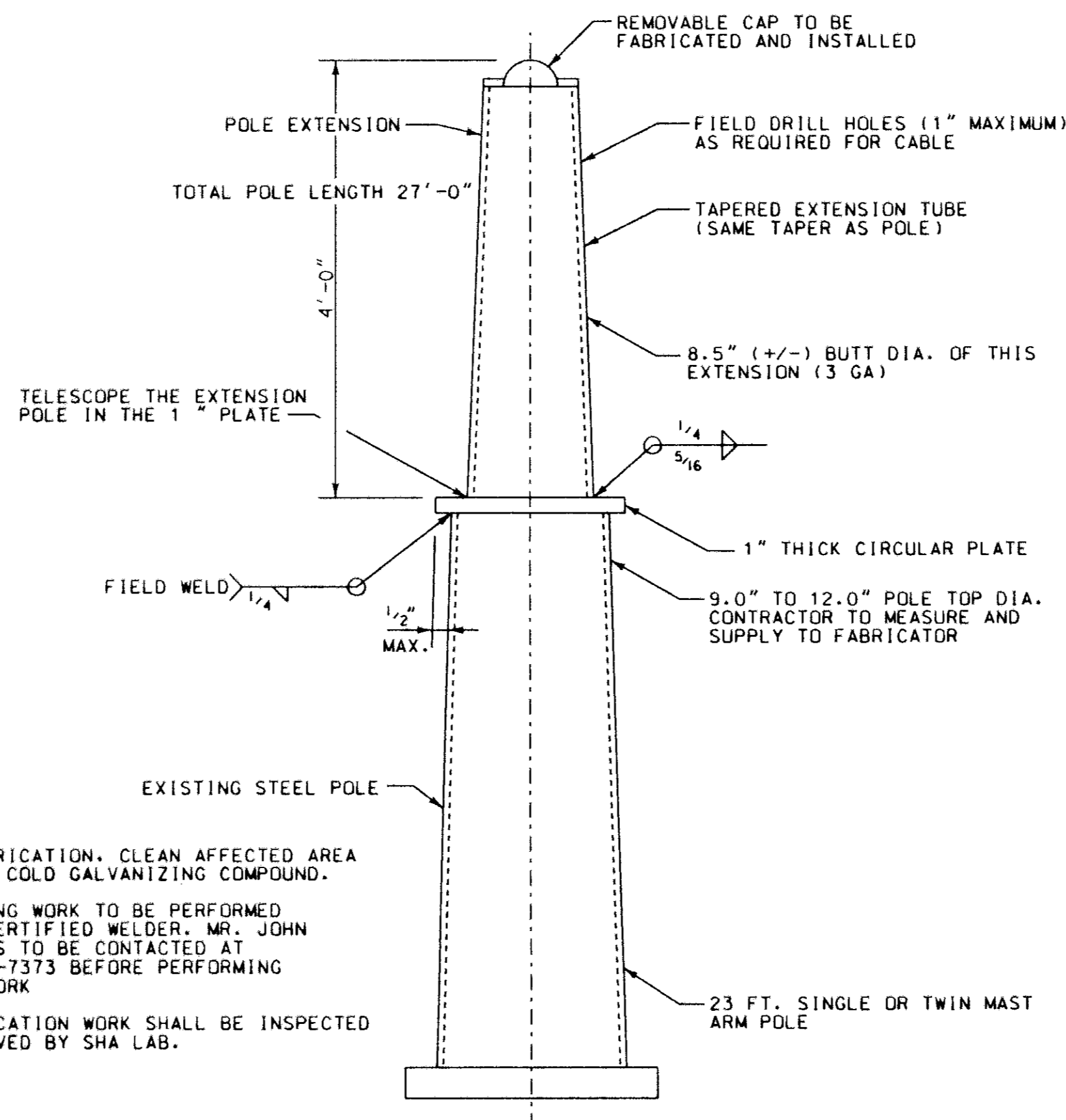
ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

PHASE CHART



	1	2	3	4	5	6	7	8
PHASE 1 + 6	G	G	G	R	R	R	R	R
1 + 6 CHANGE	G	G	G	R	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	R	R	R
PHASE 4	R	R	R	R	R	G	G	G
4 CHANGE	R	R	R	R	R	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R

MAST ARM EXTENSION FOR STREET LIGHTING ARM DETAIL



NOTES:

1. AFTER FABRICATION, CLEAN AFFECTED AREA AND SPRAY COLD GALVANIZING COMPOUND.
2. ALL WELDING WORK TO BE PERFORMED BY A MD CERTIFIED WELDER. MR. JOHN WEISNER IS TO BE CONTACTED AT (301) 513-7373 BEFORE PERFORMING WELDING WORK
3. ALL FABRICATION WORK SHALL BE INSPECTED AND APPROVED BY SHA LAB.

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2002	6 C.Y.	TEST PIT EXCAVATION
5005	85 L.F.	24 INCH WHITE HEAT APPLIED PERMENTENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5008	50 L.F.	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH
8057	10 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8029	3 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FOOT LEAD-IN CABLE
8028	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 1000 FOOT LEAD-IN CABLE
8093	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8088	360 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8068	90 L.F.	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE
8091	600 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8063	40 L.F.	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8051	290 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8053	90 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8052	200 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID PVC CONDUIT - BORED
8072	13 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8080	3 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
8078	8 EACH	FURNISH AND INSTALL TYPE I CONNECTOR KIT
8087	950 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN 1/4 INCH FLEXIBLE TUBING (NO. 14 A.W.G.)
8081	220 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8084	90 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8085	1250 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8086	420 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TYPE TC
8060	300 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8070	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 A.W.G. - THHN/THWN
8059	40 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
8074	32 S.F.	INSTALL GROUND MOUNTED SIGN
8075	61 S.F.	INSTALL OVERHEAD SIGN
8014	2 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8013	2 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8047	2 EACH	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12 IN. BELOW GRADE
8048	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT AS PER ASSIGNMENT
8020	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYSTEM)
8039	1 EACH	INSTALL MAST ARM POLE AND 50 FT. MAST ARM
8040	1 EACH	INSTALL MAST ARM POLE AND TWIN 50 FT./70 FT. MAST ARMS
8011	22 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8019	6 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
NEG.	1 EACH	FURNISH AND INSTALL MAST ARM EXTENSION FOR STREET LIGHTING ARM



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION

Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

MD 543 AND I-95 SOUTHBOUND RAMPS

WR&A

Whitman, Reardon
and Associates, LLP

2315 Saint Paul Street
Baltimore, Maryland 21218
(410) 235-3450

DRAWN BY: S. BLOSS	F.A.P. NO.	TS NO.	SHEET NO. 2 OF 2
CHECKED BY: N. LEARY	S.H.A. NO. XX1065385	TS-4129	
SCALE: NONE	COUNTY: HARFORD	T.I.M.S. NO. E678	
DATE: 8/31/01	LOG MILE: 12054301.84		